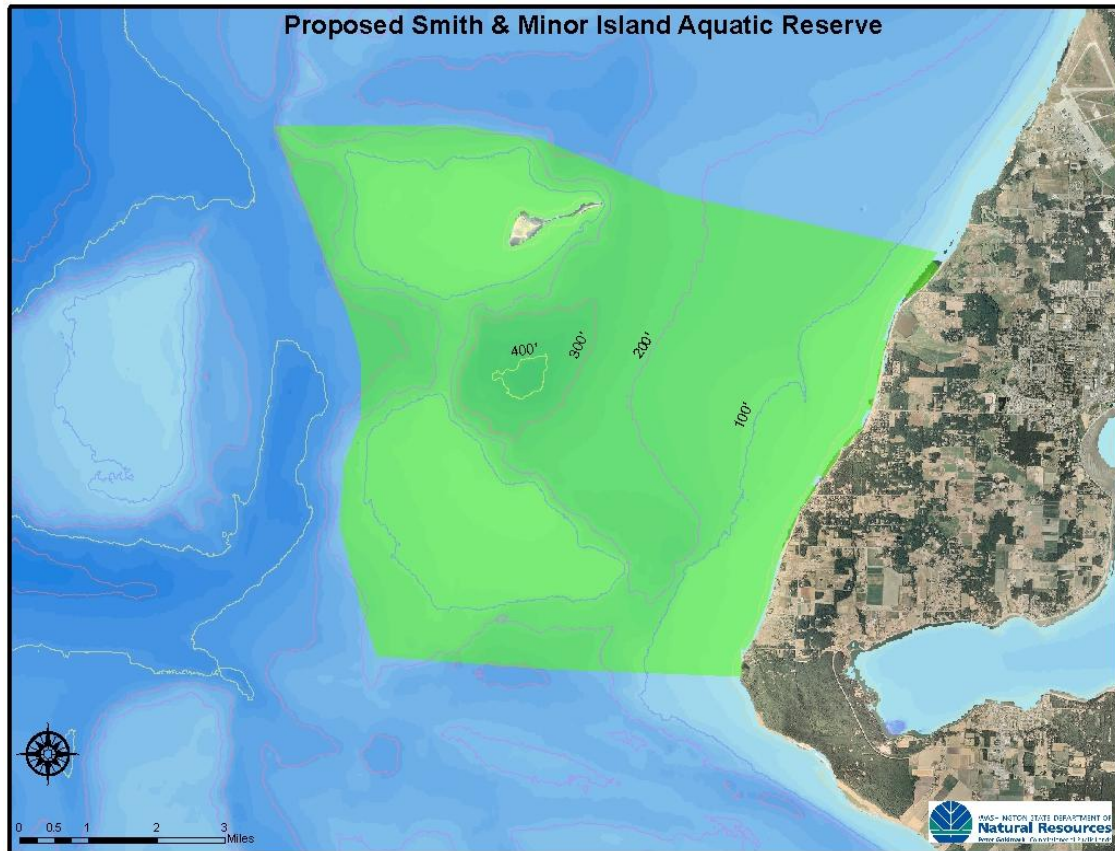




WASHINGTON STATE DEPARTMENT OF
Natural Resources
Peter Goldmark - Commissioner of Public Lands

2009 Technical Advisory Committee Site Visit Notes Smith and Minor Islands/West Whidbey Island



The site visits allowed the Committee to gain first-hand knowledge of habitats and species that are being proposed for aquatic reserve protection. A set of 30 criteria is used for evaluation of the sites and designed to help frame a group discussion about the proposed areas.

May 19, 2009 – West Whidbey Island Site Visit

2009 TAC members:

- Brie VanCleve – Marine Policy Specialist – Washington State Department of Fish and Wildlife
- Dr. Alison Styring – Biological Sciences, The Evergreen State College
- Dr. Joanna Smith – Marine Ecologist, The Nature Conservancy
- John Floberg – Vice President of Stewardship and Conservation, the Cascade Land Conservancy
- Philip Bloch – Biologist, The Washington State Department of Transportation

Assisting the Technical Advisory Committee, the following individuals also participated in the site visits and provided additional sites specific information:

- Angela Homola - Island County Commissioner
- Betty Bookheim – DNR Aquatic Reserve Biologist
- Brady Scott – DNR
- Cyrilla Cooke – People for Puget Sound/ Site Proponent
- Dave Palazzi – DNR
- Dave Roberts - DNR
- Dr. Leal Dickson - Island Co. MRC/Phycologist
- Dr. Phyllis Kind - Island County MRC/Whidbey Island Audubon
- Gaylynn Beighton – Island County Beach Watchers
- Jennifer Meyer – Liaison Officer, Community Planner, Naval Air Station Whidbey Island
- John Miller - US NAVY /Whidbey Island Naval Base Biologist
- Keith Higman – Island County Planning Director
- Kevin Ryan - USFWS - Wildlife Refuge Complex Manager
- Kyle Murphy – DNR Aquatic Reserve Manager
- Linda Lyshall – Puget Sound Partnership
- Maribeth Crandall – Biologist with Oak Harbor
- Peter Hodum, Ph.D. – Visiting Assistant Professor, University of Puget Sound
- Steve Jefferies – WDFW Marine mammal Expert

Notes (by Betty Bookheim):

The trip to the beaches on Whidbey island within the proposed reserve was productive not only for seeing the “lay of the land”, but observing the high unconsolidated bluffs, the exposure to wave energy, the wildlife, the texture and slope of the beaches, as well as the mass of drift algae that comes ashore. The area has an imposing open western exposure with Smith Island and the straits directly west. The plethora of drift plant material on the beach is both an indicator of locally rich and diverse marine flora, and the relatively high energy regime. Some of the species found regularly along the beach, amongst the drift vegetation, provided specific verification of the species presence in the local nearshore areas. The presence of *Zostera marina* on this side of the island is not documented in the DNR ShoreZone inventory data. Leal Dickson’s expertise was invaluable for verifying marine algae species. The extensive long unperturbed reaches of high bluff are striking. Phyllis Kind pointed out several of the Pigeon Guillemot nests where they have made observations on nesting and feeding behavior.

June 24, 2009 – Smith and Minor Islands site Visit

2009 TAC members:

- Dr. Alison Styring – Biological Sciences, The Evergreen State College
- John Floberg – Vice President of Stewardship and Conservation, the Cascade Land Conservancy
- Brie VanCleve – Marine Policy Specialist – Washington State Department of Fish and Wildlife

Assisting the Technical Advisory Committee, the following individuals also participated in the site visits and provided additional sites specific information:

- Angela Homola - Island County Commissioner / Island County MRC - City of Oak Harbor Mayor
- Betty Bookheim – DNR Aquatic Reserve Biologist
- Cyrilla Cooke – People for Puget Sound/Site Proponent
- Dave Palazzi – DNR
- Don Lee – WRIA 6 Water Resources Advisory Committee Island County Department of Health
- Dr. Leal Dickson - Island County MRC
- Dr. Monem Mahmoud Abdel - Island County MRC
- Dr. Phyllis Kind - Island County MRC/Island County Audubon Society
- John Miller - US NAVY /Whidbey Island Naval Base Biologist

- Kevin Ryan - USFWS Wildlife Reserve Manager
- Kurt Beardslee - Wild Fish Conservancy
- Kyle Murphy – DNR Aquatic Reserve
- Morgan Schneider – Island/Snohomish Co. Coordinator for Puget Sound Partnership
- Scott Pearson, Ph.D. – Senior Research Scientist, Washington State Department of Fish and Wildlife
- Sue - USFWS Biologist
- Wally Haussman – Environmental Program Manager, Naval Air Station Whidbey Island

Notes (by Betty Bookheim):

- Kevin’s Introduction –
- Smith Island was the 1st wildlife reserve in Puget Sound, set aside in the early 1900’s.
- Massive erosion has occurred around Smith Island including the loss of;
 - a lighthouse, 2 towers, 1 old keeper’s house and underground cistern, and generator shed
- Smith Island continues to erode.
- Biology –
- Minor Island has the only known “ground nesting” Bald Eagle in WA State; the nest is easily seen from the water.
- Recently the cormorant population is in trouble because eagle predation... (Increased eagle population). Can often see 40-50 dead seals on the beach because the eagles. “Eagles take them out.” (statement by Kevin Ryan)
- Four Tufted Puffins that nest here, (2 pairs), were observed while motoring around the islands.
- Elephant Seal population increases to 30 – 40 during breeding season (summer months?) – none observed during this visit.
- “Crab fishing is still good in vicinity of the islands.” Statement by boat captain.
- Major harbor seal haul out and pupping grounds.
- Observations –
- Bird species: Glaucous-winged Gull, Rhinoceros Auklets, Pigeon Guillemots, Tufted Puffins (4), Double-crested Cormorants, Oystercatcher, Bald Eagles.

Glaucous-winged Gulls stationed amongst the drift logs along the beach berm and scattered around the flats and “spit”. The spit/bar exposes at lower tides connecting Smith and Minor Islands). In the foreground, the salt water lagoon with a fringe of emergent marsh plants is a prominent feature/ and habitat on the island.

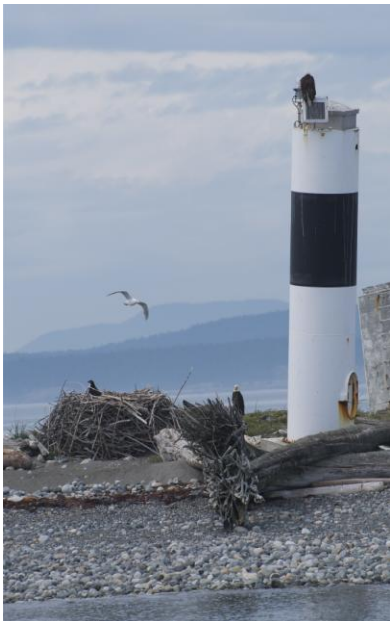




Glaucous-winged Gulls lay their eggs in the backshore vegetation amongst the drift logs with minimal protection. We observed several lone eggs in this area which are unprotected, very difficult to see and quite vulnerable.



Ground nesting burrows pocket a low elevation hummocky slope, vegetated with high grasses. These have the characteristics of Rhinoceros Auklet burrows, although they were not in use at the time.



The only “ground-nesting” Bald Eagle nest in WA State is on Minor Island.

In recent years, eagles have become so prevalent on the island that populations of Cormorants have decreased dramatically.



- Nearshore Vegetated habitat:
 - Coming into shore from the northeast side of Smith Island:

- *Phyllospadix serrulatus* - large patch of seagrass on sandy substrate, visible @ approx. -2 – (-.5) meters MLLW. Extensive flats with exposed soft browns, red, and green algae, including an extensive monoculture of robust *Fucus* spp. on a cobble flat.
- Brown seaweed observed: *Fucus distichus*, *Desmerestia viridus*, *Leathesia difformis*, *Larix* sp., *Sargassum muticum*, *Heterochordaria abitinia*



- Kelp species observed: *Cymanthere triplicata*, *Costaria costata*, *Egregia menziesii*, *Saccharina setchellii*, *Saccharina sessile*, *Saccharina latissium*, *Alaria marginata*, *Laminaria groenlandica*, *Pleurophycus gardenerii*, *Agarum fibriatum*, *Nereocystis leutkeana*, *Desmerestia ligulata*.
- Kelp beds thrive on rocky, high energy beaches in the lower intertidal and nearshore subtidal areas. Kelps anchor to firm or hard substrate and are generally indicators of cobble/boulder, or bedrock substrate. They provide habitat for a diverse community of species including juvenile fishes, such as, Young-of-the-Year rockfish, a multitude of invertebrate species, as well as, other seaweeds. The significance of the kelp at this site is both sheer abundance and

diversity. Both soft brown and chocolate brown kelps exist around the islands indicative of varying energy and exposure regimes.

- Red seaweed: Rich in, *Laurentia* sp., *Plocamium* sp., *Sparlingia pertusa*, *Mazzealla splendens*, *Chodrocanthus exasperatus* - (*Rhodomenia*), *Mastocarpus papillatus*, *Porphyra nereocystis*, *Porphyra* spp., *Hymenena* sp., *Prionitus* sp., *Sarcodiotheca gaudichaudii*, *Odenthalia washingtoniensis*, *Odenthalia* sp., *Rhodomela* sp.
- Green Algae: *Enteromorpha* spp., *Ulva* spp., *Acrosiphonia* sp.

– Observations from the underwater video footage –

- While motoring around the islands on the boat, we dropped a video camera down at 4 locations. *Zostera marina* and *Agarum fibriatum* are the 2 species of marine vegetation observed in the videography that were not seen from the deck of the boat or on the beach.
- It was clear that in there is high current energy in this area at times, it was common in the videography to see the kelps and other marine vegetation laying low and waving in the current.

– Final Remarks –

- Generally, the diversity and abundance of marine vegetation at this site offer a variety of habitats, refuge for fish and invertebrates, an important food source, and a large contribution to primary productivity.
- Upon observation, the sheer volume of macroalgae in the water and on the shore is formidable, especially so early in the season. Therefore, the total biomass of seaweed at this site, must contribute a tremendous amount of carbon to the system, (from primary productivity), and accordingly establishes the basis for supporting this rich and dynamic terrestrial and marine ecosystem.
- Note: For example, *Laminaria*-dominated communities have an annual productivity rate of approx. 2 kg carbon per m² (.4lb per ft²). For perspective, a temperate tree plantation or grasslands contribute less than 1kg carbon per m² (2002, Thomas).